

Why Choose AMPS

Advanced Multi-Physics Simulation Software

Best-In-Class Preprocessor:

AMPSolid, the solid modeling front-end, is built on the industrial standard **ACIS solid modeling kernel** with full model creation/modification/featuring/de-featuring and full model history support, designed specifically for FE simulation.

Direct Interface with Popular CAD software:

If already using ACIS based cad software (such as SolidWorks, AutoCAD, etc.), you can directly take the model file to AMPSolid, ensuring the complete integrity between CAD and FEA models. Contact us for other interface details.

Advanced Meshing Capabilities:

AMPS provides a library of meshing tools for different mesh generation requirement. Automatic meshing ability is at the press of a button, with advanced options to control 2D/Shell triangle, quad, mixed, and in 3D unstructured tetra/hexa meshing. Proprietary FlexMesh hex meshing technology provides another option for a structured hexa/brick meshing directly from a solid model. The newest Meta-Meshing innovation provides a highly controllable method using the innovative Meta-Element building block to construct a high quality meshes.

Analysis with AMPS – Quick and Faster

It is a new-generation finite Element software. Analysis using AMPS is quick and faster - you don't have to read lots of reference manual - there is no long list of elements for you to wonder about which one to use. Advanced automatic multi-body contact feature solves complex contact problem without any user intervention.

State-of-the-art Finite Element Technology

The most advanced field-tested FE technologies are implemented using the best software engineering with object-oriented language with data structure designed specifically for simulations. The main AMPS FE technologies includes: automatic h-/p-adaptive error controls, Lagrangian finite strain and large rotation support, complete elastic-visco-plastic material library, Arbitrary Lagrangian Eulerian (ALE) fluid-structure method, Conservative Weighted Optimal Least-Squares fluid formulation, automatic load/stepping controls with arc-length post-buckling method, automatic load-balanced thread-pool multi-thread design most suitable for multi-core/multi-CPU parallel processing, fastest industrial direct sparse and iterative solver with minutes of run time for millions of equations.

Model Data Base and User Supplied Routines

AMPS products communicate with each other using a Model Data Base (MDB) interface. The users can also access the FE data directly for pre and post processing. The complete MDB Reference, along with the software library, is available to the user. An USRAPP DLL interface source code library is supplied for user supplied constitutive material model, user plasticity rules, user creep functions, boundary conditions and special loading programmable interfaces.

True Multi-Physics Stress, Thermal, Flow and Electromagnetic Simulation

The advanced and consistent formulation correctly simulates strongly coupled problems such as nonlinear large deformation fluid-solid interaction, Joule heating; conjugate heat transfer, electromagnetic-stress contact, and complex material nonlinear dependency such as MEMS applications.

All the above at affordable price!!!

AMPS comes with standard and advanced version with an attractive competing price, the best ROI in the FEA tool. For universities we provide professional version at a fraction of commercial price.